

Application Number 10/660,303
Amendment dated November 27, 2007
Response to Office Action mailed August 27, 2007

REMARKS

This Amendment is responsive to the Office Action dated August 27, 2007. Applicant has amended claims 1-4, 11, 13, 17-26, 29, 35, 40-44, 46, 47, and 49, cancelled claim 38 and added new claims 51 and 52. Claims 1-37 and 39-52 are pending upon entry of this Amendment.

Claim Rejection Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 17-19, 33 and 34 under 35 U.S.C. § 102(e) as being anticipated by Goringe et al. (US 7,069,343, hereinafter "Goringe"). Applicants respectfully traverse the rejection to the extent such rejection may be considered applicable to the amended claims. Goringe fails to disclose each and every feature of the claimed invention, as required by 35 U.S.C. § 102(e), and provides no teaching that would have suggested the desirability of modification to include such features.

For example, Goringe fails to disclose a network device that includes a first data structure to store routing information that describes a topology of a network and a second data structure to store performance community information that identifies one or more network devices that are capable of responding to performance probes used to monitor the network, as recited in Applicants' independent claim 17. Goringe also fails to disclose or suggest a routing communication manager that receives a routing communication that identifies at least one route within a network and an indicator that indicates that a network device that sent the routing communication is capable of responding to performance probes used to monitor the network, updates the routing information of the first data structure to include the route identified in the routing communication and updates the performance community information of the second data structure to include the network device that sent the routing communication as one of the network devices capable of responding to performance probes, as further required by Applicants' claim 17.

Goringe describes a system for discovering a topology of a network.¹ In particular, Goringe uses multiple topology discovery techniques to discover the network topology.² One such topology discovery technique is the use of a routing protocol agent, e.g., an OSPF agent, to

¹ Goringe, Abstract.

² Id. at column 3, lines 1-7.

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download link state advertisements from the link state advertisement database of one or more OSPF routers.³ In this manner, the network topology discovery system of Goringe uses routing protocols in their conventional manner to collect routing information that identifies routes (or links) in the network. Goringe fails, however, to disclose or suggest maintaining a second data structure to store performance community information that identifies one or more network devices that are capable of responding to performance probes used to monitor the network. Instead, Goringe collects topology information for all the routers in the network. In fact, Goringe fails to teach or suggest using performance probes for collecting network performance statistics and therefore could not possibly contemplate identifying the particular network devices within the network that support the capability of responding to such performance probes.

Goringe also fails to disclose a routing communication manager that receives a routing communication that identifies at least one route within a network and an indicator that indicates that a network device that sent the routing communication is capable of responding to performance probes used to monitor the network. As described above, Goringe describes using the routing protocol in the conventional sense to communicate routes (or links). Goringe fails to disclose or suggest including an indicator that indicates that a network device that sent the routing communication is capable of responding to performance probes. Moreover, Goringe fails to disclose updating the performance community information of the second data structure to include the network device that sent the routing communication as one of the network devices capable of responding to performance probes. As described above, Goringe fails to maintain such a data structure and therefore fails to contemplate updating such a data structure based on an indicator maintained within the routing communication.

For at least these reasons, Goringe fails to disclose each and every limitation set forth in claims 17-19, 33 and 34. Therefore, the Office Action has failed to establish a prima facie case for anticipation of Applicants' claims under 35 U.S.C. § 102(e). Applicants respectfully request withdrawal of this rejection.

³ Id. at column 5, lines 17-20.

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Claim Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1-16, 20-32 and 35-51 under 35 U.S.C. § 103(a) as being unpatentable over Goringe in view of Beigi et al. (US 6,363,056). Applicants respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The cited references fail to disclose or suggest the inventions defined by Applicants' claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

With respect to claim 1, for example, the cited references fails to disclose, teach or suggest receiving a routing communication in accordance with a routing protocol, wherein the routing communication includes an identifier associated with a network device that sent the routing communication and an indicator that indicates the network device that sent the routing communication is capable of responding to performance probes used to monitor performance of a network. Moreover, the cited references fail to disclose, teach or suggest sending a performance probe to the network device identified by the identifier to collect network performance statistics, as further recited in claim 1.

In support of the rejection, the Office Action characterized Goringe as disclosing receiving a routing communication in accordance with a routing protocol that identifies at least one network device that supports performance monitoring of a network. The Office Action acknowledged that Goringe fails to teach or suggest sending a performance probe to a network device to collect network performance statistics. To satisfy this shortcoming of Goringe, the Office Action characterized Beigi as disclosing such a feature. Applicants disagree with the Office Actions characterization of Goringe and Beigi with respect to the requirements of Applicants' claims.

As described above with respect to claim 17, Goringe fails to teach or suggest receiving a routing communication in accordance with a routing protocol, wherein the routing communication includes an identifier associated with a network device that sent the routing communication and an indicator that indicates the network device that sent the routing communication is capable of responding to performance probes used to monitor performance of a network. To the contrary, Goringe describes receiving a routing communication that includes

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link state advertisement information.⁴ Thus, Goringe uses the routing protocols in their conventional manner to collect receive routing information that identifies routes (or links) in the network. This is distinctly different from Applicants' claim, which uses the routing protocol in a modified fashion to identify that a network device that sent the routing communication is capable of responding to performance probes used to monitor the network. In fact, Goringe fails to teach or suggest using performance probes for collecting network performance statistics, as acknowledged by the Office Action, and therefore could not possibly contemplate (or have a reason to contemplate) identifying the particular network devices within the network that support the capability of responding to such performance probes. Instead, Goringe identifies all the network devices within the network to generate a topology of the network.

Moreover, modifying Goringe in view of Beigi fails to arrive at the Applicants' claimed invention. Beigi describes a network performance monitoring technique in which probe packets are sent from an ingress router to an egress router.⁵ The Beigi system generates the probe packets by copying every Nth packet being sent by the ingress router and modifying the copy of the Nth packet to generate the probe packet.⁶ Thus, even if Goringe described receiving a routing communication in accordance with a routing protocol that includes an identifier associated with a network device that sent the routing communication and an indicator that indicates the network device that sent the routing communication is capable of responding to performance probes (which for the reasons set forth above Applicant does not believe Goringe includes such a teaching), Goringe in view of Beigi does not result in sending a performance probe to the network device identified by the identifier to collect network performance statistics. Instead, Beigi describes randomly generates the performance probe based on the Nth packet.⁷ In other words, the performance probe is sent to the network device that corresponds to the destination of the Nth packet instead of the network device identified by an indicator in the routing communication as required by Applicants' claim 1.

⁴ Id. at column 5, lines 17-20.

⁵ Beigi, Abstract.

⁶ Id.

⁷ Id. at column 5, lines 63-67.

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For at least the reasons set forth above with respect to claim 1, the applied references fail to teach or suggest the requirements of Applicants claims 35, 41 and 46. Therefore, the Office Action has failed to establish a prima facie case for non-patentability of Applicant's claims 1-16, 20-32 and 35-51 under 35 U.S.C. § 103(a). Applicant respectfully requests withdrawal of this rejection.

New Claims

Applicant has added claims 52 and 53 to the pending application. The cited references fail to disclose or suggest the inventions defined by Applicant's new claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed inventions. No new matter has been added by the new claims.

CONCLUSION


All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

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